

**NATIONAL EDUCATION GOALS PANEL**

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*The Need to Redesign Undergraduate and Teacher Education*

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For the last two centuries, America's colleges and universities have been the backbone of our nation's economic, cultural, scientific, technological and political progress. I think especially of the Civil War-era Morrill Act, through which Congress created our system of land grant universities and laid the foundation for decades of unprecedented national growth. Without its vast network of universities, the United States would never have achieved its current overall preeminence.

Students of every imaginable background - and here I speak from personal experience- have found a place in this nation's infinite variety of colleges and universities: public or private, large or small, secular or sectarian. The American university has educated our nation's technical, managerial and professional workforce and provided generation after generation of national leaders. Its unparalleled capacity for basic research has given the United States its formidable scientific, technological and industrial dominance.

America's universities have had a compact with our nation for more than two centuries and have consistently delivered a multiplicity of direct and indirect benefits to our nation. This is a partnership that has served us so well for so long - a partnership from which we must not retreat.

Americans and their leaders have long understood and respected this vital national interest in education and have appealed confidently to universities at important turning points, from the development of industry in the 19th century to the challenges of the Depression, the World Wars, and the Cold War. When Sputnik appeared on our horizon and we perceived a new threat, our nation responded by passing one of the most important education acts in our history. In this and every other instance, America's universities have responded magnificently, not because they are inherently better than universities elsewhere, but because they operate in an American tradition of freedom, openness, egalitarianism and equal access.

It is a great accomplishment of American civilization to have taken the university that musty medieval institution, so closely tied to the Old World Class structure - and transformed it into an instrument of democratic culture. The American university is today, incomparably, the most democratic in the world. Access is its pride and glory. It is popular in the best sense of the term, admitting and educating unprecedented numbers of men and women of every race and social class. Before World War II, only one out of ten young Americans could afford to seek a college degree. Today, fully half of high school graduates attend college. The United States has democratized access to higher education and attempted to nationalize opportunity at a scale unprecedented in world history.

U.S. higher education leads the world in the number, variety, funding and availability of its colleges and universities. The upper quarter of our country's institutions of higher learning, considered from the viewpoint of quality, is the largest and finest system of its kind in the world. According to some authorities, as many as three quarters of the best universities in the world is located in the United States. The fact that almost half a million international students are studying in the United States - one-third of all the world's students who choose to study abroad - is a tribute to the preeminence of our higher education.

Let me cite some salient and brief statistics about our higher education system:

- There are today roughly 3,500 colleges and universities in our country, including some 1,400 public and private two-year institutions.
- U.S. colleges and universities enroll about 16 million students and grant annually some 2 million degrees (1 million bachelor's, 500,000 associate's, 300,000 master's, 40,000 Ph.D.'s and 75,000 professional degrees, including law and medicine.)

- U.S. higher education employs 2.5 million individuals, including 800,000 faculty, more people than the automobile, steel and textile industries combined.
- At the present, U.S. higher education is an over \$300-billion enterprise, accounting for about 3 percent of our nation's gross national product.

In addition to access and excellence, the diversity of our institutions of higher learning, both public and private, constitutes yet another major strength. Our system of higher education is strong because it is *not* a centrally controlled uniform system. It is strong because individual institutions have traditionally emphasized different functions and have complemented each other by meeting different local, regional and national needs, by providing educational opportunities to a diverse population, by expanding scientific and technical knowledge, and by providing opportunities for continuing education.

I would like to remind us that Americans expect a lot from their universities. They expect our universities:

- to safeguard the nation's social mobility;
- to guard our past, our tradition, and our memory - in short, to maintain the American heritage;
- to harness science and technology for the service our economy, our health and national agendas;
- to help shape the future;
- to articulate our aspirations;
- to create, invent and discover solutions to the problems of today and answers to the challenges of tomorrow;

- to advance knowledge through scholarship, extend knowledge through teaching and spread knowledge through publication;
- to promote equality alongside quality, accessibility alongside excellence, and liberality of thought alongside rigor;
- to lift the intellectual and spiritual level of our democracy by providing a venue to American values through a liberal education that would enable students to acquire, understand, and develop responsible attitudes and behavior pertaining to individual and social ethics, values and democratic responsibility;
- and to give our students a liberal education with many basic skills: skill in textual, numerical and conceptual analysis, skill in a foreign language, skill in thinking about social and scientific issues, skill in coping with being able to adapt to change, skill in citizenship.

Naturally no institution can fully meet all these expectations. Hence it is not surprising that during the last 30 years there have been many sharp criticisms of our universities, from the left and the right, even among educators themselves.

As we march into the twenty-first century, we face challenges and changes of an unimagined kind and scope. New information technologies and rapidly evolving global communications are bringing social changes that are not fully understood, while new international political and economic realities have forever changed relationships among the nations of the world. We find ourselves at another important national juncture where the American university must once again assume its historical leadership.

It goes without saying that the U.S. higher education system, even though it is the best in the world, cannot continue to serve our country's 21st-century needs without a viable, robust

and healthy education system from Kindergarten through high school, both public and private, non-sectarian and parochial. Facing, as it does, a knowledge explosion and other complex challenges, the American university cannot afford the luxury of transforming its first two years of instruction to meet the woeful inadequacies of our public school system. We cannot afford to relegate 50 percent of the university's time and resources to remedial work.

We must take national and local preventative measures to reform, strengthen and in some instances rescue our elementary and high school systems. A nation that witnesses 850,000 of its young people dropping out of school every year and poorly prepares countless others for the complex society of the 21st century is condemning a large part of its citizenry to economic and technological subjugation.

At least for the next decade, America's colleges and universities will continue to take in millions of inadequately prepared students who graduate from the nation's public and private high schools, and it does no good to deny that prospect, or to pretend that it will be quickly remedied. To change thousands of schools, to give school teaching, the dignity and importance it deserves, calls for more than rhetoric; it presumes a willingness to be candid about conditions that exist, about forces that impede change in the teaching profession, in families, in neighborhoods, in Congress and in the state legislatures.

A great deal must be done to reform our nation's primary and secondary schools. Our colleges and universities can and must provide intellectual, educational and administrative leadership in this national endeavor to achieve not "instant solutions" and "instant cures" but specific, solid, educational gains and goals -- even those few goals that are commonly agreed on. It is in higher education's (and in our nation's) interest to take preventative measures to raise the quality of our K-12 education, hence the quality of our future college and university

students. It is in its interest to check the growing burden of remedial education, duplication and waste.

Today, some 18 years after the National Commission on Excellence in Education published its ground-making report, A Nation at Risk: The Imperative for Educational Reform, the need for sustained improvement in our schools is no longer disputed.

National opinion polls indicate that Americans view it as the most pressing issue facing the nation. An overwhelming number of state legislatures consider the improvement of K-12 education as their top priority. Last year during the National Education Summit, governors from across the nation vowed to devise strategies to improve teacher quality, and to provide all students with a fair opportunity to meet higher academic standards.

Today, more than in any recent national election, public education has taken the center stage in each of the presidential candidate's campaigns. The sense of urgency about the need to strengthen public education is palpable despite disagreements among many about specific strategies that will succeed. The public is increasingly joining leading economists and business leaders in recognizing that the new economy requires a more rigorous education for all. Success in the 21<sup>st</sup> century requires mastery of high school level mathematics and written and oral communicational skills. In confronting the challenges of the Information Age and global competition, American society and economy, the American businesses need workers who know how to learn, think critically, communicate effectively, reason analytically, work in teams, use information technologies and perform in diverse settings.

One major challenge facing the nation as it embarks to reform and reconstruct its public school systems, is the sheer size of students in public schools" during 1999-2000, the enrollments reached a record 53.3 million. While accommodating soaring enrollment of

students, our nation must also cope with the problem of securing a teaching corps of upwards of 2.5 million new teachers during this next decade.

Our colleges and universities which have educated virtually every teacher in every classroom in every school of our country, have an obligation, the responsibility for the way teachers are taught, and ultimately the way children are taught.

If we are to require higher standards of learning from students and from schools, we must also require such standards from teachers. The nation's efforts to reform public school systems and create schools adequate for the twenty-first century cannot succeed without reforming university teacher preparation programs. At least 2 million new teachers will be needed over the next decade. The quality of the teacher corps that is produced will largely determine the success or failure of our public education systems and affect the future of the country and democracy for years to come. In our view, the U.S. higher education system cannot escape its historical, moral, and social obligations to ensure the quality of instruction and the preparation of teachers.

During the past forty-five years, a succession of studies, reports, and commissions have highlighted the responsibility of higher education to provide a high-quality education to the nation's teaching force. James B. Conant's *The Education of American Teachers* (1963) called for colleges and universities to assume greater responsibility to defend their product. The Carnegie Commission on Higher Education's 1973 report, *Continuity and Discontinuity*, recommended bringing theory and practice together in clinical settings and highlighted the urgent need to train teachers for urban school districts. The 1985 Carnegie Forum on Education and the Economy's report, *A Nation Prepared*, and the 1996 report of the National Commission on Teaching & America's Future, *What Matters Most*, both pointed to the obvious -- that well-educated teachers are the key to successful school reform.



Despite these and countless other reports, some welcome progress, and the leadership of several deans and educational associations, teacher education is not at the top of the agenda of university and college presidents. Within the universities, schools of education are often effectively isolated and given second-class status. Intellectual and educational interactions between the faculties of arts and sciences and schools of education are often minimal or nonexistent. Currently only 500 of the nation's 1,200 education schools are nationally accredited. Even though research has clearly established the connection between the content knowledge of teachers and the level of student knowledge, only a few states now require teachers to major or minor in the subjects they are assigned to teach. In some instances a B.A. degree in education is considered enough to certify one to teach any subject. In his April 27, 1998 message, *Moving from Analysis to Action*, Bruce Alberts, president of the National Academy of Sciences, observes of teachers that "far too few of them have the understanding of science or math that they need to be able to teach these subjects effectively in schools today ... Teachers are generally taught pedagogy, divorced from any subject matter, whereas to be a good math teacher, one needs focused preparation on how to teach mathematics. And to be a good science teacher, one needs focused preparation on how to teach science."

The effects on students of inadequate teacher preparation in subject matter are not confined to science and math. On the last national test of student knowledge of American History in 1994, conducted by the federally funded National Assessment of Educational Progress, 57 percent of high school seniors were found to be "below basic." The National Center for Educational Statistics (1996) reports that 59 percent of students in middle school and 43 percent of high school students are studying history with a teacher who has not earned a college degree with at least a minor in history.

The disregard for academic subject matter is best illustrated by the fact that almost three-quarters of elementary school teachers and one-third of the nation's high school teachers

major only in education. Nationally, undergraduate students majoring in education have had lower SAT and ACT test scores than students in other programs of study. In 1993, only 16 percent of education majors were over represented in the bottom quartile, at 30 percent. In addition to weak subject matter preparation, most teachers lack sufficient knowledge of child or adolescent development, intergroup relations, educational technology, and the world outside the United States to be effective educators of the next generation. According to a recent federal survey, a majority of teachers themselves admit to feeling ill-prepared to meet many of the instructional challenges they face.

Teaching is a central mission of our higher education institutions. Their faculties, presidents, provosts, and boards, not to mention state legislatures and governors, must bear the burden of responsibility for the quality of our teacher corps. To blame the teachers or to blame the unions does not absolve universities and colleges of their legal, social, and moral responsibilities. After all, it is they who graduate and certify our teachers. For the proper education of teachers in both subject matter and pedagogy as well as to ensure a common vision, colleges and university leaders must aim for a greater integration of the faculties and courses in the arts and sciences and the education schools. The presidents of universities and colleges must be held accountable for the standards, the education, and the qualifications of the teaching profession. There should be no differentiation between admission and graduation standards of colleges of arts and sciences and schools of education. All education schools should be nationally accredited. Since educational technology plays an increasingly important role in students' lives, with the potential for transforming learning, teacher preparation must incorporate such technology into its core curriculum.

Every institution of higher education should also have a serious and ongoing, relationship with local schools. Nationally, about 30 percent of all first-time university or

college freshmen have to take a remedial course in basic academic skills. The nation cannot indefinitely afford the cost and duplication involved in higher education's enormous remedial work. Last but not least, the current forms of in-service professional development of teachers should be revamped. Low-intensity workshops on "hot" topics or miscellaneous courses for credit and salary enhancement are luxuries that students, teachers, districts, and unions cannot afford. An imaginative reorganization of professional development programs is called for.

Raising the standards of schools of education, revamping their curricula, and accrediting them are not alone sufficient to raise the status of teachers and foster an appreciation of their central role in our society. Fair compensation of teachers, with a reward mechanism for outstanding teachers, is essential to attract, recognize, and retain the best talent dedicated to teaching. After all, it is to our teachers that we entrust the education of our children and youth and, hence, our future.

We at Carnegie Corporation of New York have teacher education at the top of our national education priorities even though we know our limited funds will not permit us to deal with 1,200 individual schools of education. We will concentrate initially on dissemination of the best models of teacher education to encourage their wider adoption; assistance to governors and other state policymakers in developing incentives and accountability mechanisms to promote more widespread change; and the promotion of broader public understanding of the importance of teaching quality.

As an initial step in our work on teacher education reform we supported the work of two major organizations involved with teacher quality. One of these organizations is the American

Council on Education. Its President's Task Force on Teacher Education and its report -- To Touch the Future -- asserts that "the quality of our teachers is the key to improved student performance, regardless of the condition of the schools, the affluence of the child, the nature of the community or any other element in the lives or educational environment of school children."

Notwithstanding compelling research connecting teacher content knowledge to effectiveness in the classroom, more than 25 percent of all new teachers either have no license or have a substandard license in the subject matter they were hired to teach. A disproportionate number of these ill-prepared teachers are entrusted with our nation's most vulnerable students. Education Trust's national database reveals that children in schools with high poverty and minority populations typically are taught by teachers with the least content knowledge. The fact is that quality teaching is central to achieving the new standards.

The other report we supported, the 1996 National Commission on Teaching and America's Future states the challenge simply: "What teachers know and can do is the most important influence on what students learn. Competent and caring teaching should be a student right."

The National Commission describes the challenge nationally in straightforward terms as well: "You would be incorrect much of the time if you assumed that any teacher to whom your child was assigned had a degree in his or her subject; had studied child development, learning and teaching methods and had passed tests of teaching knowledge and skills. In fact, well under 75% of teachers meet this standard."

The underlying logic of the standards movement suggests that for students to learn richer, more rigorous content and gain intellectual capacities to analyze and synthesize materials and make judgments they will need a continuous series of highly qualified teachers.

In 1999 the American Council on Education's Presidents' Task Force on Teacher Education reviewed extensive research on the impact of teacher quality. The Task Force reported:

"All the empirical evidence presented in the full report of the American Council on Education Presidents' Task Force on Teacher Education tells us that the single most important element in a child's success at learning - probably the element most important than all the others put together - is the quality of the teacher."

"Researchers Rivkin, Hanushek and Kain (1998), for example, demonstrated in a Texas study that the influence of teachers on student achievement is many times greater than any other commonly observed variable."

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"Sanders and Rivers (1996) reported astonishingly large effects of the influence of teachers. Their data from Tennessee show that two equally performing second graders can be separated by as many as 50 percentile points by the time they reach fifth grade, solely as a result of being taught by different teachers.

The Task Force concluded: "Only if the quality of teachers entering the profession improves will we effectively adapt to a new economy that depends far more than ever on knowledge - its acquisition, analysis, synthesis, communication and application."

NCTAF and others have summarized the problem of teacher preparation as twofold:

- Too little attention to subject matter

- Lack of knowledge that is specific to the profession of teaching - pedagogical method, curriculum design, adolescent development, student cognition and learning, and classroom management skills

Some examples from NCTAF report:

- Nearly one-fourth (23%) of all secondary teachers do not have even a college minor in their main teaching field. This is true for more than 30% of mathematics teachers.
- Among teachers who teach a second subject, 36% are unlicensed in the field and
- 50% lack a minor.
- 56 percent of high school students taking physical science are taught by out-of-field teachers, as are 27% of those taking mathematics and 21% of those taking English.

This situation is much worse for students in urban districts, in high poverty schools and in lower track classes.

- In schools with the highest minority enrollments, students have less than a 50% chance of getting a science or mathematics teacher who holds a license and a degree in the field he or she teaches.

Teachers in schools with higher poverty rates have, on average, the lowest scores on certification tests. For example, New York City teachers have lower scores and higher failure rates on teacher certification exams. Test failure rates: NYC - 31.1%; rest of NY state, 4.7%; NYC suburbs, 5.9%.

We must now ask ourselves what the challenges are as we redesign undergraduate and teacher education. At a time when we know that teachers who themselves performed well as students also perform better as teachers, schools of education are attracting academically weaker students. Becoming a teacher has lost status in society and within the college and university community.

At a time when large numbers of undergraduates are taking pre-professional degrees, teacher education is succeeding neither as career preparation nor as liberal education. The Carnegie Challenge paper, *Liberal Arts Education for a Global Society*, cites the crisis in teacher education as indicative of the challenges confronting undergraduate education:

"Schools of education are isolated from other faculties in the university. Many education majors, especially those preparing for elementary school teaching are trained only in pedagogy. College professors trained only in subject matter do not provide appropriate models for future teachers. The professional and intellectual isolation of teachers begins with their undergraduate education and continues into their professional lives." This is compounded by the larger context where "professional and liberal arts education exist in worlds apart, rather than as complementary parts of an integrated curriculum." "Pre-professional education, driven by student interest in acquiring credentials that lead directly to a good job, and narrowly defined majors, driven by faculty research interests and affiliations with their disciplines rather than the educational missions of their institutions, dominate undergraduate education."

To produce intellectually vital teachers who know the subject matter to be taught; can explain it from many perspectives and who can use multiple methods including technology to engage students in learning requires an intellectually vital college experience that integrates

strong curriculum, exemplary teaching and real-world experiences for these prospective teachers.

This situation presents an enormous challenge for colleges and universities. Yet it is also an exciting opportunity for universities to contribute enormously to widespread positive social change. Due to demographic factors over the next ten years the country is expected to hire 2.5 million new teachers. What happens in teacher preparation, and more broadly, in undergraduate education will shape the nation's future strength as an economy and a democracy.

For universities solving the teacher preparation challenge may have added benefits. By tackling the issues of the place of liberal learning in preparation for a career pathway, in crafting rigorous and engaging learning experiences that integrate experiential and academic work and that use technology in ways that extend learning, and in creating learning environments that support students to think deeply, broadly and rigorously and apply their learning in the world, universities should be finding new ways to strengthen the entire undergraduate education experience.

Undergraduate education that prepares teachers should start with a few premises:

- A solid balanced education in the arts and sciences, aimed at developing competent, inquisitive, productive adults.
- Teachers must be able to understand and communicate across cultures effectively and deeply. They need an appreciation of global cultures, not developed mechanically through requirements for diversity education, but developed through broad historical, geographical and literary knowledge and cross-cultural experiences, that they can draw upon in their teaching.)



- Teachers must be able to apply knowledge across disciplines and use these perspectives to understand both their students as complex learners at varying stages of human development; to grapple with intellectual problems and to stimulate creative thinking.
- Technology offers immense possibilities for extending learning.
- Teachers should be developing professional knowledge with strong core curriculum New teachers need to have a vision of good teaching and knowledge of pedagogical methods, curriculum design, child development, student cognition and learning, and classroom management. They need extensive clinical practice and experience with problem-based methods, case studies, action research, performance assessments and portfolio evaluation. Gaining this cannot be isolated from other intellectual pursuits.

In all, to accomplish all of the above objectives as previously noted, we at Carnegie have provided two roadmaps for reforming teacher education: The National Commission on Teaching and America's Future and the American Council on Education Presidents' Task Force on Teacher Education:

It's noteworthy to point out that The National Commission on Teaching and America's Future (1997) states that the most important features for ensuring high-quality outcomes for teacher education, regardless of the length of the program, are: (a) a common vision of good teaching that is apparent in all coursework and clinical experience; (b) well-defined standards of practice and performance that guide and measure courses and clinical work; (c) a rigorous core curriculum; (d) extensive use of problem-based methods, including case studies, research on teaching issues, performance assessments, and portfolio evaluation; and (e) strong relationships with reform-minded local schools that support the development of common knowledge and shared beliefs among school and university faculty.

A review commissioned by this Task Force found that other characteristics of successful programs include: (a) arts and sciences faculty and education faculty have developed an effective way to combine their contributions; (b) the program is supported by the central administration of the institution and by school leaders in the community; (c) applicants seeking to become teachers are admitted through a thoughtfully designed process of matriculation; (d) graduates of teacher education programs are carefully guided into and supported in a community of teachers and learners, not just cut adrift after graduation; (e) program elements - especially subject matter learning and clinical training - are tightly articulated, with practice coupled to theory; and (f) program quality and outcomes are carefully, independently, and continuously assessed.

According to Stanley O. Ikenberry, the President of the American Council on Education, fifty years ago the council called on college and university leaders to pay more attention to the education of America's teachers: "Looking back not a great deal happened". Half a century later, the Council has issued a major report with a strong message. *To Touch the Future*, a report by the ACE Presidents' Task Force on Teacher Education (once again urges presidents and chancellors to lead a reform effort. It recommends that:

- College and University presidents must take the lead in moving the education of teachers to the center of their institutional agenda.
- Presidents need to clarify and articulate the strategic connection of teacher education in the mission of their institution.
- Presidents should mandate a campus-wide review of the quality of their institution's teacher education programs.

- Presidents and governing boards should commission rigorous periodic, public, and independent appraisals of the quality of their institutions' teacher education programs.
- Presidents should require that education faculty and courses are coordinated with arts and science faculty and courses.
- Presidents should ensure that their teacher education programs have the equipment, facilities and personnel necessary to educate future teachers in the usage of technology.
- Presidents of graduate and research universities have a special responsibility to be advocates for graduate education, scholarship and research in the education of teachers.
- College and university leaders should strengthen inter-institutional transfer and recruitment processes.
- Presidents should ensure that graduates of their teacher education programs are supported, monitored and mentioned.
- Presidents should speak out on issues associated with teachers and teaching and should join with other opinion leaders to shape public policy.

The report concludes that the college and university presidents are the keepers of the covenant between the nation's institutions of higher learning and its school children. The report calls for leadership from presidents. I wholeheartedly agree with the report that the leadership from presidents is essential for the success of real teacher education reform.

Their recommendations are common-sensical enough to be revolutionary. But appeals by professional associations alone are no substitutes for real change. What is needed is the

intervention of the governors and mayors along with Congress. They, too, must provide leadership, insisting on action, excellence and accountability.

Without coordinated and concerted intervention, some forty years of benign neglect of schools of education and the quality of teacher education programs will not be changed dramatically.

The hearings associated with the Higher Education Act, hearings such as today before the National Education Goals Panel, provide public forums for action. They help to educate the public, state and national policy makers about what needs to be done to reform the education of those responsible for the training of the mentors of our nation's youth -- our teachers.

I think we do a disservice to America's teachers to simply blame them for the problems in today's education system. Teachers who attend our colleges and universities, often assuming indebtedness, can not be responsible for the quality of education they receive: Deans, Provosts, Presidents and Faculties have that responsibility. The leaders of universities and colleges have no choice. They must meet their legal, moral, and professional responsibilities.

In 1984, John W. Gardner, a former Secretary of Health, Education and Welfare and a distinguished predecessor of mine, predicted that after almost two decades of popular neglect, there was a resurgence of interest in public education. He was right. However, it has taken a quarter of a century to place education in general and public education in particular, as the most important issue of our nation's agenda. The public sees clearly education as an investment rather than an expenditure alone. It expects our elected officials both in the State Houses,

Congress as well as the White House to provide responsible leadership and solutions to endemic problems that have plagued K-12 education. There is now a general public understanding that in this age of Information Revolution and global economy, education is a necessary investment in human capital: a real basis for a vibrant economy, citizenship and democracy.

During the past 17 years there has been much effort and some progress to reform our public education systems both by national and local government, by the private sector, non-profits and corporations -- especially in the realm of science and math education. However, much remains to be done in the training, of the quality teacher.

I am equally pleased to note that the recent report of the American Federation of Teachers, entitled Building a Profession: Strengthening Teacher Preparation and Induction (April 2000) also agrees with most of the nation's urgent agenda concerning the quality of teachers' education. The report recommends:

- The establishment of required core courses in the liberal arts and sciences for college freshmen and sophomores as a requirement for entering into a teacher education program.
- To raise entrance standards for teacher education programs by requiring a 2.75 grade point average at the end of the sophomore year as an initial requirement to be phased up to a 3.0 grade point average.
- To institute a national entry test, voluntary, to be used by states or higher education institutions to select candidates who want to enter teacher education. The test will require college-level proficiency in the core subject areas of mathematics, science, English language arts, and history/geography/social studies.

- To require an academic major in addition to pedagogical studies, and general liberal arts coursework for all teacher candidates -- elementary, middle and high schools. The major must be rigorous and comprehensive enough to prepare prospective teachers to help their students meet the new, more demanding K-12 education standards.
- The development of a rigorous commonly agreed upon curricula in pedagogy.
- To strengthen the clinical experience.
- To institute a licensure test -- to be taken by all prospective teachers both in its subject matter and pedagogy. Cognizant of the difficulties to provide a balance of coursework in liberal arts, pedagogy and in academic disciplines, the Report recounts that teacher preparation be organized at a minimum as a five-year process.
- University presidents must make the preparation of high quality teachers an institutional priority. This should be reflected in funding for teacher education commensurate with other professional training, strengthen relationships between arts and science and education faculty.
- The National Council for the Accreditation of Teacher Education (NCATE) to articulate higher standards of subject-matter knowledge and academic performance required of students entering and graduating from teacher education, particularly as they relate to state standards for K- 1 2 students.

We applaud that the quality of teaching in elementary and secondary schools is now high on the national education policy agenda for the unions. We are also pleased that policy makers at the state and federal levels are focused on initiatives designed to improve the abilities

of teachers already in schools and increase the numbers of well-qualified teachers available to fill current and future vacancies.

I am in great sympathy with state and national policy makers in requiring teachers to take tests as a means to measure the quality of teachers and teaching. There is a strong national interest in requiring teachers to pass a test in order to earn a license to teach as well as requirements that states and institutions of higher education report passing rates on such tests. However, I would like to introduce a note of caution. Today 41 states require prospective teachers to pass one or more tests. These states vary considerably in what they test, how they test it and the level of performance they require for passing. Perhaps with a combination of quality control by the faculty, the administrators and the board, coupled with testing would provide every professor the impetus as well as the checks and balances to enhance the quality. The latest findings by the National Research Council's study (April 2000) concludes:

- Teacher licensure tests assess only some of the characteristics that are deemed to be important for effective practice. They are not designed to predict who will become effective teachers.
- There is currently little evidence available about the extent to which widely used teacher licensure tests distinguish between candidates who are minimally competent to teach and those who are not.
- Comparisons of passing rates among states are not useful for policy purposes because of the diversity of testimony and licensure practices.
- Test instruments, pass/fail rules, and other licensing requirements and policies that result in large differences in eventual passing rates among racial/ethnic groups pose problems for schools that seek to have a diverse teaching force.

As far as I am concerned, there can be no argument that teaching quality education is important. But it is equally important to state the obvious fact if teachers have proven their quality of work, they should receive recognition and compensation worthy of their occupation and qualifications. I can not believe that we pay sometimes double even triple to mechanics to repair our cars, plumbers to fix our sinks, accountants to manage our money, policemen to safeguard our properties and firemen to protect us from harm more than we pay our teachers, the people to whom we have entrusted our most precious possessions, our offspring, our youth, our future. There must be a *quid pro quo*. We can not beat up on teachers if they have passed their exams, are graduates of accredited colleges and universities and licensed by the states. After all, they have met all our rules and expectations. However, licensing alone will not do it if those giving the degrees don't put meaning behind them. The key is to have good educational institutions which give us quality teachers and give proper compensation. Today's *New York Times* (May 31, 2000) stated that a teacher's starting salary in New York City is \$28,000, after 20 years \$59,000 with a master's degree. That won't do.

It is well known that we spend an inordinate amount of money annually to recruit teachers. Why don't we simply offer incentives for teachers to stay in teaching?

Incentives, for example, might include:

- To allow teachers to choose between three schools in which they would like to teach.
- To allow first year teachers to teach half-time, allowing the other half of the time for them to get to know the community and the parents. Or to finish their certifications.
- To give teachers who have been teaching for three years, the opportunity to sign on for five more years. If they do, the state should take care of their college indebtedness. The state thus would be investing in their future and teachers would have an incentive to stay.



- In view of the fact that there is a surplus of science and mathematics Ph.Ds and not enough college or university teaching positions, why not have an incentive for them to teach in high schools? Why not award them three-year fellowships to teach in high schools and simultaneously allow them to do their research in a near-by university or laboratory during the summers.

An aging America possesses many challenges and opportunities as well. It is a free source that American schools can tap. They can take advantage of retired professionals in the ranks of college professors, retired businessmen, the military, and retired teachers to allow them to teach on a part-time or a full-time basis in our high schools where there are not enough qualified recruits. These individuals, after a short but intensive training program, would make excellent teachers.

In short, we have to tap the entire talent pool of America in the next ten years if we are to make a turn around that will transform the entire fabric of the educational system while the nation prepares a pool of over 2 million qualified, well-educated teachers to meet the needs of the nation's public school systems.

Let me end by reminding you of Edward Everett -- minister, scholar, orator, politician, President of Harvard, and a leading conservative of his day - who, over a century and a half ago, delivered a famous speech on the issue of education:

"There are two roads by which a society can travel when it comes to the question of education. One, the route most other nations had followed, was to treat education as a luxury for a small, privileged class of wealth and leisure. By that reckoning, the fortunate few would let learning creep in with luxury' and dispense its blessings to those it chose worthy of the honor. They would do so 'out of the surplus of vast private fortunes'. That Everett intoned, was

not the American way ... The American way was to make the care of the mind from the outset a part of its public economy: the growth of knowledge, a portion of its public wealth."